

## Documentation of Environmental Indicator Determination

Interim Final 2/5/99

### RCRA Corrective Action

Environmental Indicator (EI) RCRA Info code (CA725)

Current Human Exposures Under Control

Facility Name: Clean Harbors Environmental Services, Inc. (CHES)  
Facility Address: 7515 Harvest Road, Prince George, VA  
Facility EPA ID #: VAD988175055

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

☒ If yes - check here and continue with #2 below.

☐ If no - re-evaluate existing data, or

☐ If data are not available skip to #6 and enter "IN" (more information needed) status code.

### BACKGROUND

#### Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

#### Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

#### Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

#### Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRA Info as long as they remain true (i.e., in RCRA Info status codes must be changed when the regulatory authorities become aware of contrary information).

**Current Human Exposures Under Control**  
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2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be "**contaminated**"<sup>1</sup> above appropriately protective risk-based "levels" (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater	<u>✓</u>	<u>—</u>	<u>—</u>	<u>VOCs, SVOCs</u>
Air (indoors) <sup>2</sup>	<u>—</u>	<u>—</u>	<u>✓</u>	<u>Possible VOCs</u>
Surface Soil (<2 ft)	<u>—</u>	<u>—</u>	<u>✓</u>	<u>Possible Metals, VOCs, SVOCs, and PCBs</u>
Surface Water	<u>—</u>	<u>—</u>	<u>✓</u>	<u>Possible Metals, VOCs, SVOCs, and PCBs</u>
Sediment	<u>—</u>	<u>—</u>	<u>✓</u>	<u>Possible Metals, VOCs, SVOCs, and PCBs</u>
Subsurf. Soil (>2 ft)	<u>—</u>	<u>—</u>	<u>✓</u>	<u>Possible Metals, VOCs, SVOCs, and PCBs</u>
Air (outdoors)	<u>—</u>	<u>✓</u>	<u>—</u>	<u>—</u>

       If no (for all media) - skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient supporting documentation demonstrating that these "levels" are not exceeded.

✓ If yes (for any media) - continue after identifying key contaminants in each "contaminated" medium, citing appropriate "levels" (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

       If unknown (for any media) - skip to #6 and enter "IN" status code.

**Rationale and Reference(s):**

See attached page

("Unknowns" are carried through with "Yes" determinations to ascertain what information is needed or if risks are negligible.)

**Footnotes:**

<sup>1</sup> "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

<sup>2</sup> Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

**Site Description:**

The facility is located at 7515 Harvest Road, in Prince George, Virginia, and began operation as Belpar Environmental in the 1980's, and was acquired by Chemical Waste Management (CWM) of Oak Brook, Illinois. CWM submitted a Hazardous Waste Permit Part A Application in January 1992. CWM operations at the site included lab packaging, underground storage tank removal and installation services, processing, storage, and transportation of waste, and acceptance of waste oil, which was subsequently shipped off-site for treatment and/or disposal.

Clean Harbors began leasing the property in September 1994, when it purchased the operations from CWM. The 3.29-acre property is leased from A.A. Forbes of Prince George, Virginia. Clean Harbors operated the facility under Interim Status, and submitted a Part B Application in February 1997. During Clean Harbor's operation, the site has been used as a hazardous and non-hazardous waste storage and treatment facility. Clean Harbors subsequently withdrew the part B Application on August 27, 2001, after undergoing RCRA closure of the tank farm, and operated as a wastewater treatment facility regulated under the Clean Water Act (CWA) until 2004. The site is currently used as a service center for oil and hazardous material spill response activities and scheduled environmental services.

The site is located in Forbes Industrial Park, within a lightly developed agricultural/residential/ industrial region of Prince George, Virginia. The industrial park is located along Route 156, approximately 20 miles southeast of Richmond, and within 0.5 mile of the Hopewell city limits. The site is topographically relatively flat and lies at an elevation of approximately 130 feet above mean sea level. There are no waterways or wetlands on the site. A surface water surface impoundment is located on the adjacent property east of the facility site; the surface impoundment receives stormwater from the Clean Harbors facility and other adjacent properties in the Forbes Industrial Park.

There are two buildings located on the northwest portion of the site. The larger building is a 5,000 square-foot one story metal building which houses a former laboratory, a boiler, and general maintenance equipment and supplies. The second building is comprised of two large trailers and is used as office space.

A 5,000-gallon diesel aboveground storage tank (AST) is located west of the main building, and currently contains fuel for equipment and vehicles. One inactive hazardous waste AST and four inactive non-hazardous waste ASTs are located in a concrete-lined tank farm located southeast of the main building. The tank farm was RCRA "clean closed" in 2001. Two 20,000-gallon fractionation (frac) tanks are located southwest of the tank farm, and are used to temporarily hold stormwater that collects in the tank farm and an adjacent containment dike.

The active portion of the site, where treatment and storage of hazardous waste has occurred, is located on the southern portion of the property and is completely enclosed by a chain-link fence. A 60-foot by 65-foot concrete pad is located on the eastern portion of the site and is currently used to park box trailers, where truck to truck transfer operations occur. Empty roll-off containers are stored along the southern fence line of the site. West of the roll-off containers are large capacity decommissioned ASTs awaiting disposal. A large metal solidification pan, currently not in use, is stored adjacent to these ASTs. North of this area is a sea van used for storage of supplies, and northwest of the sea van is a storage shed and canopy used for additional storage of spill response supplies. With the exception of the concrete pad, the tank farm and containment dike, the site is unpaved and covered with gravel, soil, or vegetation. A site plan of the Clean Harbors facility is attached

During CWM's operation of the facility, solid and hazardous waste treatment and storage was conducted in two areas: in the tank farm and on the concrete pad in the eastern portion of the facility. During Clean Harbors operation, hazardous waste processes continued in the tank farm until 2001, when the tank farm was "clean closed" under the RCRA. Oily sludge was solidified in a solidification pan on the concrete pad, and this operation ceased in 2004. Currently truck-to-truck transfer of containerized waste occurs on the concrete pad. These wastes are subsequently transported off-site for treatment and/or disposal at appropriate facilities.

**1. Groundwater – YES**

REFERENCE: 1) RCRA Facility Investigation Work Plan by CHES (Initial July 12, 2007, revised March 14, 2008);  
2) Environmental Site Assessment: Chemical Waste Management Hopewell Facility by Environmental Resources Management, Inc. (ERM) August 1, 1994

**RATIONALE:** In 1994, a groundwater (GW) investigation was conducted by Environmental Resource Management, Inc. (ERM) as part of a combined Phase I/II assessment requested by CHES at the time of their property purchase. Three GW monitoring wells (MW-1, MW-2, MW-3) were installed, surveyed and used to collect chemical analytical data and GW elevation data. The 1994 data suggests GW onsite flows to the southwest and drains to the Blackwater Swamp with periodic discharge to an adjacent (eastward) surface impoundment during dry periods. GW samples were collected from MW-1, MW-2, MW-3, pre-existing well AB-2 and an abandoned water supply well. All samples were analyzed for VOCs, SVOCs, PCBs and TPH (Total Petroleum Hydrocarbons). MTBE (Methyl-t-butyl ether) was detected in MW-2 and the abandoned supply well at concentrations of 79 µg/l and 48 µg/l, respectively, which were above its EPA Region III risk-based concentration (RBC) for tap water of 2.6 µg/l. Additionally, di-n-butylphthalate was detected in all but one well at concentrations ranging from 10 µg/l to 12 µg/l, which were below the RBC for tap water of 3,650 µg/l. Other potential contaminants include PCBs (Polychlorinated biphenyl compounds) and TPH. However, concentrations for these constituents, PCBs and TPH, were not detected in groundwater samples above laboratory detection limits during the 1994 evaluation. No other GW data is available at this time.

On July 12, 2007, CHES prepared and submitted a RCRA Facility Investigation (RFI) Work Plan (revised in March 2008). The RFI Work Plan proposes redevelopment and sampling of all accessible GW wells at the facility. Because the only constituents detected by ERM were petroleum-related, the proposed analytical suite contains VOCs and SVOCs from Appendix VIII to 40 CFR 261 and from Appendix IX to 40 CFR 264, rather than TPHs. GW will also be analyzed for the metals, including lead, listed in Appendix IX to 40 CFR 264. GW samples will not need to be initially analyzed for PCBs. Soil samples will be analyzed first for presence of PCBs, and if detected (or above SSLs) then the GW would be analyzed for PCBs. GW elevation data will also be collected and GW flow direction confirmed. The facility also plans to survey the elevation of the adjacent surface impoundment to gain a better understanding of the hydrologic relationship between the impoundment and the uppermost aquifer.

## **2. Air (indoors) – UNKNOWN**

**REFERENCE:** 1) *RCRA Facility Investigation Work Plan by CHES (Initial July 12, 2007, revised March 14, 2008);*  
2) *Environmental Site Assessment: Chemical Waste Management Hopewell Facility by Environmental Resources Management, Inc. (ERM) August 1, 1994*

**RATIONALE:** The 1994 groundwater investigation results indicated relatively low levels of VOCs in the groundwater. The facility utilizes water from an on-site well (W-2) for the restrooms, there is a potential for the indoor air to be impacted. The presence of a shallow low-permeable clay layer (2.5 to 3-feet below grade) combined with the depth to groundwater (7 to 14.5 feet below grade) make it unlikely that any vapors could migrate to the surface. In addition, the workers in the work environments are protected under the OSHA standards it can reasonably be assumed that the indoor air is neither impacted nor does it pose a risk.

## **3. Surface Soil – UNKNOWN**

**REFERENCE:** 1) *RCRA Facility Investigation Work Plan by CHES (Initial July 12, 2007, revised March 14, 2008);*  
2) *Environmental Site Assessment: Chemical Waste Management Hopewell Facility by Environmental Resources Management, Inc. (ERM) August 1, 1994*

**RATIONALE:** As part of the 1994 Phase I/II assessment, ERM collected surface soil samples (0-3 inches) from eight source areas and submitted them for laboratory analysis for VOCs, SVOCs, PCBs, and TPH. The only compounds detected were TPH, ranging from 57 mg/kg to 9,900 mg/kg, and PCBs at only one location (Truck Wash Area) at 0.1 mg/kg. There are four documented spills of used oil ranging from 14 to 105 gallons, which occurred between 1994 and 1996. In addition, during a site inspection by EPA and VDEQ on August 30, 2005, stained soils were observed in an area identified as the Tote and Frac Tank Laydown area. The impacted soils were excavated and disposed off-site to address the condition.

On July 12, 2007, CHES prepared and submitted a RCRA Facility Investigation (RFI) Work Plan (revised in March 2008). The RFI Work Plan proposes sampling of soil at various locations (known SWMUs and AOCs) throughout the facility. Soil samples will be analyzed by a laboratory for VOCs, SVOCs, PCBs, and Metals, where appropriate.

**Section 2 attachment – Rationale and References**

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**4. Surface Water – UNKNOWN**

REFERENCE: 1) RCRA Facility Investigation Work Plan by CHES (Initial July 12, 2007, revised March 14, 2008);  
2) Environmental Site Assessment: Chemical Waste Management Hopewell Facility by Environmental Resources Management, Inc. (ERM) August 1, 1994

RATIONALE: A buried drain line crosses the site from west to east and carries surface drainage from areas west of the site to a surface impoundment located on the easterly adjacent property. Precipitation that does not infiltrate through the ground surface flows off the perimeter of the site in all directions since the topography is relatively flat. Westerly drainage flows via a north-south trending swale into the buried drain line and then to the impoundment. Northerly flow is into a perimeter drainage swale that also discharges to the impoundment. Easterly and southerly flow is onto the adjacent properties. The impoundment also receives drainage from the other surrounding properties besides Clean harbors. The impoundment has no outlet. Local surface drainage is southward into the North Fork of the Blackwater Swamp, located approximately 2,000 feet south of the site.

On July 12, 2007, CHES prepared and submitted a RCRA Facility Investigation (RFI) Work Plan (revised in March 2008). The RFI Work Plan proposes conducting a stadia survey to establish relative elevations and to update groundwater flow characteristics. Items to be surveyed include the groundwater monitoring points and the impoundment water level, which will be used to establish groundwater elevations, groundwater flow direction, and the hydrologic relations between the impoundment and the aquifer beneath the site. Surface water will be sampled if sediment sampling of the drainage ditch indicates potential release of COCs from Clean harbors to the surface impoundment.

**5. Sediment – UNKNOWN**

REFERENCE: 1) RCRA Facility Investigation Work Plan by CHES (Initial July 12, 2007, revised March 14, 2008);  
2) Environmental Site Assessment: Chemical Waste Management Hopewell Facility by Environmental Resources Management, Inc. (ERM) August 1, 1994

RATIONALE: On July 12, 2007, CHES prepared and submitted a RCRA Facility Investigation (RFI) Work Plan (revised in March 2008). The RFI Work Plan proposes sampling of sediment from drainage swales and a culvert which discharges to a nearby surface impoundment. Sediment samples will be analyzed by a laboratory for VOCs, SVOCs, PCBs, and Metals, where appropriate.

**6. Subsurface Soil – UNKNOWN**

REFERENCE: 1) RCRA Facility Investigation Work Plan by CHES (Initial July 12, 2007, revised March 14, 2008);  
2) Environmental Site Assessment: Chemical Waste Management Hopewell Facility by Environmental Resources Management, Inc. (ERM) August 1, 1994

RATIONALE: As part of the 1994 Phase I/II assessment, ERM collected surface soil samples (0-3 inches) from eight source areas and submitted them for laboratory analysis for VOCs, SVOCs, PCBs, and TPH. The only compounds detected were TPH, ranging from 57 mg/kg to 9,900 mg/kg, and PCBs at only one location (Truck Wash Area) at 0.1 mg/kg. There are four documented spills of used oil ranging from 14 to 105 gallons, which occurred between 1994 and 1996. In addition, during a site inspection by EPA and VDEQ on August 30, 2005, stained soils were observed in an area identified as the Tote and Frac Tank Laydown area. The impacted soils were excavated and disposed off-site to address the condition.

On July 12, 2007, CHES prepared and submitted a RCRA Facility Investigation (RFI) Work Plan (revised in March 2008). The RFI Work Plan proposes sampling of soil at various locations (known SWMUs and AOCs) throughout the facility. Soil samples will be analyzed by a laboratory for VOCs, SVOCs, PCBs, and Metals, where appropriate.

**7. Air (outdoors) – NO**

REFERENCE: 1) RCRA Facility Investigation Work Plan by CHES (Initial July 12, 2007, revised March 14, 2008);

2) *Environmental Site Assessment: Chemical Waste Management Hopewell Facility by Environmental Resources Management, Inc. (ERM) August 1, 1994*

RATIONALE: The 1994 groundwater investigation results indicated relatively low levels of VOCs in the groundwater. The presence of a shallow low-permeable clay layer (2.5 to 3-feet below grade) combined with the depth to groundwater (7 to 14.5 feet below grade) make it unlikely that any vapors could migrate to the surface. In addition, the workers in the work environments are protected under the OSHA standards it can reasonably be assumed that the outdoor air is neither impacted nor does it pose a risk.

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3. Are there **complete pathways** between "contamination" and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

**Summary Exposure Pathway Evaluation Table**

Potential **Human Receptors** (Under Current Conditions)

<b><u>Contaminated Media</u></b>	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food <sup>3</sup>
Groundwater	<u>NO</u>	<u>YES</u>	<u>NO</u>	<u>YES</u>	<u>NO</u>	<u>NO</u>	<u>NO</u>
Air (indoors)	<u>NO</u>	<u>YES</u>	<u>NO</u>	<u>YES</u>	<u>NO</u>	<u>NO</u>	<u>NO</u>
Soil (surface, e.g., <2 ft)	<u>NO</u>	<u>YES</u>	<u>NO</u>	<u>YES</u>	<u>NO</u>	<u>NO</u>	<u>NO</u>
Surface Water	<u>NO</u>	<u>NO</u>	<u>NO</u>	<u>NO</u>	<u>NO</u>	<u>NO</u>	<u>NO</u>
Sediment	<u>NO</u>	<u>NO</u>	<u>NO</u>	<u>NO</u>	<u>NO</u>	<u>NO</u>	<u>NO</u>
Soil (subsurface e.g., >2 ft)	<u>NO</u>	<u>NO</u>	<u>NO</u>	<u>YES</u>	<u>NO</u>	<u>NO</u>	<u>NO</u>
Air (outdoors)	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors' spaces for Media which are not "contaminated" as identified in #2 above.
2. enter "yes" or "no" for potential "completeness" under each "Contaminated" Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential "Contaminated" Media - Human Receptor combinations (Pathways) do not have check spaces ("\_\_\_"). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

- \_\_\_\_\_ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).
- ✓ \_\_\_\_\_ If yes (pathways are complete for any "Contaminated" Media - Human Receptor combination) - continue after providing supporting explanation.
- \_\_\_\_\_ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code.

**Rationale and Reference(s):**

Groundwater – see attached page, Item #1  
Air (Indoors) – see attached page, Item #2  
Soil (surface) - see attached page, Item #3  
Surface Water – see attached page, Item #4  
Sediment (surface) - see attached page, Item #5  
Soil (subsurface) – see attached page, Item #6

<sup>3</sup> Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)



## 1. Groundwater

REFERENCE: 1) RCRA Facility Investigation Work Plan by CHES (Initial July 12, 2007, revised March 14, 2008); 2) Environmental Site Assessment: Chemical Waste Management Hopewell Facility by Environmental Resources Management, Inc. (ERM) August 1, 1994

### RATIONALE:

#### Residents

NO – There is no information indicating the presence of residents on the facility.

#### Workers

YES – The workers at the facility may potentially be exposed to groundwater that may be high in contaminant concentrations since an on-site well is utilized to provide water to the restrooms (toilets and sinks). Bottled water is supplied for drinking purposes.

#### Day-Care

NO – There is no information indicating the presence of a day-care on the facility.

#### Construction

YES – Construction workers at the facility may potentially be exposed to groundwater that may be high in contaminant concentrations since an on-site well is utilized to provide water to the restrooms (toilets and sinks). Bottled water is supplied for drinking purposes.

#### Trespassers

NO – The facility is located in an industrial area with a fence surrounding the property thereby restricting access to trespassers.

#### Recreation

NO – There is no information indicating that any portion of the facility is for recreational use.

#### Food

NO – There is no information indicating that food is grown within the facility's boundary.

## 2. Air (Indoors)

REFERENCE: 1) RCRA Facility Investigation Work Plan by CHES (Initial July 12, 2007, revised March 14, 2008); 2) Environmental Site Assessment: Chemical Waste Management Hopewell Facility by Environmental Resources Management, Inc. (ERM) August 1, 1994

### RATIONALE:

#### Residents

NO – There is no information indicating the presence of residents on the facility.

#### Workers

YES – The workers at the facility may potentially be exposed to air that may be high in contaminant concentrations since an on-site well is utilized to provide water to the restrooms.

#### Day-Care

NO – There is no information indicating the presence of a day-care on the facility.

#### Construction

YES – Construction workers at the facility may potentially be exposed to air that may be high in contaminant concentrations since an on-site well is utilized to provide water to the restrooms.



**Section 3 attachment – Rationale and References**

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Trespassers

NO – The facility is located in an industrial area with a fence surrounding the property thereby restricting access to trespassers.

Recreation

NO – There is no information indicating that any portion of the facility is for recreational use.

**3. Soil (surface)**

REFERENCE: 1) RCRA Facility Investigation Work Plan by CHES (Initial July 12, 2007, revised March 14, 2008); 2) Environmental Site Assessment: Chemical Waste Management Hopewell Facility by Environmental Resources Management, Inc. (ERM) August 1, 1994

RATIONALE:

Residents

NO – There is no information indicating the presence of residents on the facility.

Workers

YES – The workers at the facility may potentially be exposed to surface soils that may be high in contaminant concentrations and fugitive dust arising from the surface soils.

Day-Care

NO – There is no information indicating the presence of a day-care on the facility.

Construction

YES – Construction workers may potentially be exposed to surface soils that may be high in contaminant concentrations and fugitive dust arising from the surface soils. However, construction workers should be protected by a Health and Safety Plan for work in areas potentially impacted by potential releases from SWMUs.

Trespassers

NO – The facility is located in an industrial area with a fence surrounding the property thereby restricting access to trespassers.

Recreation

NO – There is no information indicating that any portion of the facility is for recreational use.

Food

NO – There is no information indicating that food is grown within the facility's boundary.

**4. Surface Water**

REFERENCE: 1) RCRA Facility Investigation Work Plan by CHES (Initial July 12, 2007, revised March 14, 2008); 2) Environmental Site Assessment: Chemical Waste Management Hopewell Facility by Environmental Resources Management, Inc. (ERM) August 1, 1994

RATIONALE:

Residents

NO – There is no information indicating the presence of residents on the facility.

Workers

NO – The nearby impoundment is the only source of surface water and it is unlikely that workers would be exposed to the surface water contained within the impoundment. The impoundment has no outlet.

**Section 3 attachment – Rationale and References**

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Day-Care

NO – There is no information indicating the presence of a day-care on the facility.

Construction

NO – The nearby impoundment is the only source of surface water and it is unlikely that construction workers would be exposed to the surface water contained within the impoundment. The impoundment has no outlet, and there are no planned construction activities for the impoundment.

Trespassers

NO – The facility is located in an industrial area with a fence surrounding the property thereby restricting access to trespassers.

Recreation

NO – There is no information indicating that any portion of the facility is for recreational use.

Food

NO – There is no information indicating that food is grown within the facility's boundary.

**5. Sediment (surface)**

REFERENCE: 1) RCRA Facility Investigation Work Plan by CHES (Initial July 12, 2007, revised March 14, 2008); 2) Environmental Site Assessment: Chemical Waste Management Hopewell Facility by Environmental Resources Management, Inc. (ERM) August 1, 1994

**RATIONALE:**

Residents

NO – There is no information indicating the presence of residents on the facility.

Workers

NO – The culverts and drainage swells are the only sources of sediment and it is unlikely that workers would be exposed to the sediment contained within the culverts and drainage swells.

Day-Care

NO – There is no information indicating the presence of a day-care on the facility.

Construction

NO – The culverts and drainage swells are the only sources of sediment and it is unlikely that construction workers would be exposed to the sediment contained within the culverts and drainage swells. There are no planned construction activities.

Trespassers

NO – The facility is located in an industrial area with a fence surrounding the property thereby restricting access to trespassers.

Recreation

NO – There is no information indicating that any portion of the facility is for recreational use.

Food

NO – There is no information indicating that food is grown within the facility's boundary.

**6. Soil (subsurface)**

REFERENCE: 1) RCRA Facility Investigation Work Plan by CHES (Initial July 12, 2007, revised March 14,

2008); 2) *Environmental Site Assessment: Chemical Waste Management Hopewell Facility* by Environmental Resources Management, Inc. (ERM) August 1, 1994

**RATIONALE:**

Residents

NO – There is no information indicating the presence of residents on the facility.

Workers

NO – Under normal operating conditions the workers at the facility do not perform excavation work and therefore it is unlikely that the workers at the facility would be exposed to subsurface soils.

Day-Care

NO – There is no information indicating the presence of a day-care on the facility.

Construction

YES – Construction workers performing excavation activities may potentially be exposed to subsurface soils that may be high in contaminant concentrations. However, construction workers should be protected by a Health and Safety Plan for work in areas potentially impacted by potential releases from SWMUs.

Trespassers

NO – The facility is located in an industrial area with a fence surrounding the property thereby restricting access to trespassers.

Recreation

NO – There is no information indicating that any portion of the facility is for recreational use.

Food

NO – There is no information indicating that food is grown within the facility's boundary.

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4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be "**significant**"<sup>4</sup> (i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable "levels" (used to identify the "contamination"); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable "levels") could result in greater than acceptable risks)?

- \_\_\_\_\_ If no (exposures can not be reasonably expected to be significant (i.e., potentially "unacceptable") for any complete exposure pathway) - skip to #6 and enter "YE" status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to "contamination" (identified in #3) are not expected to be "significant."
- \_\_\_\_\_ If yes (exposures could be reasonably expected to be "significant" (i.e., potentially "unacceptable") for any complete exposure pathway) - continue after providing a description (of each potentially "unacceptable" exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to "contamination" (identified in #3) are expected not to be "significant."
- \_\_\_\_\_ ✓ If unknown (for any complete pathway) - skip to #6 and enter "IN" status code

Rationale and Reference(s):

The evaluation of the nature and extent of COCs in environmental media and a risk assessment screening and/or risk assessment will be conducted in the forthcoming RFI at the facility site as described in this EI document.

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<sup>4</sup> If there is any question on whether the identified exposures are "significant" (i.e., potentially "unacceptable") consult a human health Risk Assessment specialist with appropriate education, training and experience.

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- Rationale and Reference(s):

[illegible]

**Current Human Exposures Under Control**  
**Environmental Indicator (EI) RCRA Info code (CA725)**  
Page 6

6. Check the appropriate RCRA Info status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

\_\_\_\_\_ YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the Clean Harbors Environmental Services, Inc. facility, EPA ID # VAD988175055, located in Prince George, Virginia, under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

\_\_\_\_\_ NO - "Current Human Exposures" are NOT "Under Control."

☒ IN - More information is needed to make a determination.

Completed by Ryan J. Kelly  
(print) Ryan J. Kelly  
(title) Environmental Engineer

Date 9/9/08

Supervisor Leslie A. Romanchik  
(print) Leslie A. Romanchik  
(title) Director, Office of Hazardous Waste  
(EPA Region or State) VA DEQ

Date 9/15/08

Locations where References may be found:

VA Department of Environmental Quality, Office of Hazardous Waste  
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Contact telephone and e-mail numbers:

(name) Ryan J. Kelly  
(phone #) (804) 698-4045  
(fax #) (804) 698-4234  
(e-mail) rjkelly@deq.virginia.gov

**FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.**

